# MOLECULAR VACUUM PUMP

**Patent number:** DE3791053T
**Publication date:** 1989-12-21
**Inventor:** DEMICHOV KONSTANTIN EVGENEVIC (SU); SERGEEV VLADIMIR PAVLOVIC (SU); VICHREV VLADIMIR ILIC (SU); SARSIN SERGEJ NIKOLAEVIC (SU); SOLOCHOV VALERIJ BORISOVIC (SU)
**Applicant:** DEMICHOV KONSTANTIN EVGENEVIC (SU); SERGEEV VLADIMIR PAVLOVIC (SU); VICHREV VLADIMIR ILIC (SU); SARSIN SERGEJ NIKOLAEVIC (SU); SOLOCHOV VALERIJ BORISOVIC (SU)
**Classification:**
**- international:** F04D19/04
**- european:**
**Application number:** DE19873791053T 19871225
**Priority number(s):** WO1987SU00155 19871225

**Also published as:**
WO8906319 (A1)
GB2232205 (A)
FR2629877 (A1)

Abstract not available for DE3791053T
Abstract of corresponding document: **GB2232205**

A molecular vacuum pump comprises a hollow stator (1) in the axial opening (2) of which is mounted a rotor (3). The internal surface (4) of the stator (1) is provided with grooves (5) oriented along a helicoidal line and forming, together with the external surface (6) of the rotor (3) facing the stator (1), channels for pumping out the gas. A part of the axial opening (2) of the stator (1) widens in the direction of its butt end (7) facing the suction side, whereas the external surface (6) of the rotor (3) is provided with ribs (13) constituting a multiple-thread screw. Each rib (13) widens in the direction of the butt-end (7) of the stator (1) facing the suction side so that the gap between its edge (15) facing the internal surface (4) of the stator (1) and said surface (4) is constant along the length of the edge (15). The inlet openings (9) of the suction channels are located on the internal surface of the stator (1) in the wide part of its axial opening (2).

(12) UK Patent Application (19) GB (11) 2 232 205 (13) A

(43) Date of printing by UK Office 05.12.1990

(21) Application No 8917441.1

(22) Date of filing 25.12.1987

(86) International application data
PCT/SU87/00155 Su 25.12.1987

(87) International publication data
WO89/06319 Su 13.07.1989

(51) INT CL[5] (as given by ISA)
F04D 19/04

(52) UK CL (Edition K)
F1C CBB CFE CFFH C103 C110 C307 C601

(56) Documents cited by ISA
EP 0081890 A1 DE 3613344 A1 DE 2255618 A1
FR 2244370 A1

(58) Field of search by ISA
INT CL[5] F04D 19/04

(71) Applicants
Valery Borisovich Sholokhov
Ulitsa Gorkogo, 75, kv. 55, Vladimir, Soviet Union

Konstantin Evgenievich Demikhov
Ulitsa Kosinskaya, 26, Korpus 2, kv. 95, Moscow, Soviet Union

Vladimir Pavlovich Sergeev
ulitsa Jubileinaya, 58, kv. 29, Vladimir, Soviet Union

Vladimir Iliich Vikhrev
Suzdalsky prospekt, 3, kv. 52, Vladimir, Soviet Union

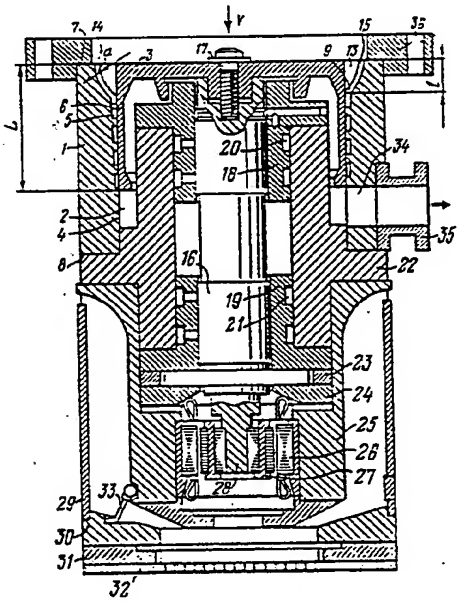
Sergei Nikolaevich Sharshin
ulitsa Tokareva, 2, kv. 12, Vladimir, Soviet Union

(72) Inventors
Konstantin Evgenievich Demikhov
Vladimir Pavlovich Sergeev
Vladimir Iliich Vikhrev
Sergei Nikolaevich Sharshin

(74) Agent and/or Address for Service
A.A. Thornton & Co
Northumberland House, 303-306 High Holborn, London, WC1V 7LE, United Kingdom

# (54) Molecular vacuum pump

(57) A molecular vacuum pump comprises a hollow stator (1) in the axial opening (2) of which is mounted a rotor (3). The internal surface (4) of the stator (1) is provided with grooves (5) oriented along a helicoidal line and forming, together with the external surface (6) of the rotor (3) facing the stator (1), channels for pumping out the gas. A part of the axial opening (2) of the stator (1) widens in the direction of its butt end (7) facing the suction side, whereas the external surface (6) of the rotor (3) is provided with ribs (13) constituting a multi-thread screw. Each rib (13) widens in the direction of the butt-end (7) of the stator (1) facing the suction side so that the gap between its edge (15) facing the internal surface (4) of the stator (1) and said surface (4) is constant along the length of the edge (15). The inlet openings (9) of the suction channels are located on the internal surface of the stator (1) in the wide part of its axial opening (2).



GB 2 232 205 A